PROCESS AND SYSTEM TO REDUCE MERCURY EMISSION

ABSTRACT OF THE DISCLOSURE

In a method to decrease emission of mercury, a factor is selected to control a combustion process to generate a flue gas comprising fly ash with enhanced unburned carbon; the combustion process is controlled according to a factor selected from reburning fuel, flue gas temperature, OFA injection, coal particle size, LNB flow, LNB design, combustion zone air, stoichiometric ratio of fuel, fuel/air mixing in a primary combustion zone and fuel/air mixing in a secondary combustion zone to produce the flue gas comprising fly ash with enhanced unburned carbon and to vaporize mercury; and the flue gas is allowed to cool to collect fly ash with enhanced unburned carbon with absorbed mercury. A system to decrease emission of mercury; comprises a combustion zone that is controlled to generate a flue gas comprising fly ash with enhanced unburned carbon and that produces vaporized mercury; and a post combustion zone to cool the flue gas to collect fly ash with enhanced unburned carbon with absorbed mercury.